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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,631	10/08/2003	David Wayne Duckert	132949/YOD GEMS:0204	6089

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EXAMINER	
DESTA, ELIAS	
ART UNIT	**PAPER NUMBER**
2857	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/681,631	**Applicant(s)** DUCKERT ET AL.	
	Examiner Elias Desta	**Art Unit** 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 October 2003*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-50* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *08 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Drawing

1. The drawing is objected to because of the following minor informalities:

   - Fig. 1 shows that system 10 includes subsystem 12 with a computer module such as a monitor, a key board, a mother board and a network interface to link system 10 with server 22; and yet system 10 is shown as representing the entire system. Hence, it is required to separate system 10 from system 22 and 32 to be consistent with the written description as noted in page 7, lines 6-14. Appropriate correction is required.

Specification

2. The disclosure is objected to because of the following informalities:

   - Page 1:
     - Line 6: replace the word "technique" with 'invention';
     - Line 12: replace the phrase "...in continuing to provide" with 'for providing';
     - Lines 12-13: replace the phrase "Such equipment, for example, may require ..." with 'These equipments may require ...'; and

- Line 19: replace the word "to" with 'for' and delete the phrase "regularly timed" and replace it with 'regular'

Appropriate corrections are required; further, the specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim rejection – 35 U.S.C. §101

3. 35 U.S.C. §101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. *Claims 1-50* are rejected under 35 U.S.C §101 as being directed to a nonstatutory subject matter.

In reference to claims 1-25: The interpretation of these *claims 1-25* is that they do not expressively or implicitly require performance of any of the steps by a machine, such as general-purpose digital computer. An ordinary skill in the art would have done the same analysis mentally or by hand given available data. Under the most recent Federal Circuit cases, transformation of data by a machine (e.g., a computer) is a statutory subject matter provided the claims recite practical application, see *State St. Bank & Trust Co*, V. *Signature Fin. Group, Inc*., 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1600-01 (Fed. Cir. 1998).

Further, *claims 1-50* are broad enough to read a statutory subject matter (having being implemented on a machine, such as *claims 26-50*) and nonstatutory subject matter (as noted in *claims 1-50*) are considered nonstatutory (see Cf. *In re Lintner*, 458 F.2d 1013, 1015, 173 USPQ 560, 562 (CCPA 1972) ("Claims which are broad enough to read on obvious subject matter are unpatentable even though they also read on nonobvious subject matter."). Thus, claims 1-25 might be statutory subject matter if performed by a machine (as it noted in claims 26-50) does not make the claims (claims 26-50) statutory subject matter since no machine is required.

Claim rejection – 35 U.S.C. §102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. *Claims 1-50* are rejected under 35 U.S.C. §102(e) as anticipated by *Siegel et al.* (U.S. PAP 2004/0117153).

In reference to claims 1, 11, 18, 26, 30, 34, 38-45 and 48: teaches an automated self-learning diagnostic method or a method for determining a lifepredicting model, which provides information about a service interval for a device (see *Siegel et al.*, Fig. 1). The method includes the steps of:

- Collecting data points regarding the device or machines (see *Siegel et al.*, Fig. 2, section 250, collect machine performance data from field machines);
- Comparing (correlating) one or more data points to at least one associated reliability data or curve for a population of similar devices (see *Siegel et al.*, Fig. 2, section 280, and page 3, paragraph 34 to the end);
- Calculating service interval for the device based at least upon the comparison of the one or more data points and reliability curve is inherently taught because "... the operation of self-learning diagnostic system may include checking machine or device service records for undetected failures (see *Siegel et al.*, page 4, paragraph 35).

With regard to claims 2-5, 12 and 19-20: as noted above in claims 1, 11 and 18, *Siegel et al.* further teaches that the device include machines (see *Siegel et al.*, Fig. 1, section 240). In the instant application, the specification on page 2 describes that the application can be used with "any device that requires periodic maintenance"; hence the invention also applies to machines.

With regard to claims 6, 13, 22, 27, 31, 35, 46 and 49: as noted in *claims 1, 11, 18, 26, 30, 45 and 48*, *Siegel et al*. further teaches that calculating the service interval includes evaluating data collected from a continuous system monitor (see *Siegel et al*., page 1, paragraph 12, the third sentence).

With regard to claims 7 and14: as noted above in claims 1 and 11, *Siegel et al*. further teaches that the system includes a reliability data points from a database of repair records for a population of similar devices (see *Siegel et al*., page 2, paragraphs 15-17).

With regard to claims 8, 15, 23, 47 and 50: as noted above in *claims 1, 11, 18, 45 and 48*, *Siegel et al*. further teaches that calculating service interval are dependent upon the age of the device (component stress and aging) and the environment in which the device operates (environmental conditions) (see *Siegel et al*., page 2, paragraph 28).

With regard to claims 9, 10, 16, 17, 24 and 25: as noted above in *claims 1, 11 and 18*, *Siegel et al*. further teaches that the data points include operational (see *Siegel et al*., page 3, paragraph 31) and non-operational data points (see *Siegel et al*., page 3, paragraph 32).

With regard to claim 21: as noted above in claim 18, *Siegel et al*. further teaches that selecting an optimal service interval includes comparing the service interval of each device because the diagnostic set points and thresholds are communicated by self-learning diagnostic system to the networked machines which are also providing machine service data back to diagnostic system from machine service records (see *Siegel et al.*, page 3, paragraph 29).

With regard to claims 28, 29, 32, 33, 36 and 37: as noted above in claims 26, 30 and 34, *Siegel et al.* further teaches that the system includes a network that connects all machines (devices) to a server where the server contains reliability data for a population of similar devices (see *Siegel et al.*, Figs. 1, 2 and page 3 paragraph 33).

Conclusion

7. Citation of pertinent prior art:

- ➢ *Gullo* (IEEE Article, 'In-Service Reliability Assessment and Top-Down Approach Provides Alternative Reliability Prediction Method') teaches a Mean-Time-Between-Failure prediction method.
- ➢ *Asawa* (U.S. Patent 6,108,800) teaches method and apparatus for analyzing the performance of an information system.
- ➢ *Campean et al.* (IEEE Article, 'Camshaft Timing-Belt Reliability Modeling) teaches life prediction modeling for automotive components.
- ➢ *Hansen et al.* (U.S. Patent 4,539,632) teaches programmable maintenance timer system.
- ➢ *Chiu et al.* (U.S. Patent 4,284,972) teaches vehicle mileage interval detector.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)-272-1750.

Elias Desta
Examiner
Art Unit 2857

-ed

March 02, 2005

Marc Hoff
MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800